

# Case report: cobblestone

## Acute neonatal respiratory failure and *Chlamydia trachomatis*

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Neonatal infection with *Chlamydia trachomatis* is not an uncommon problem. However, severe infection leading to respiratory failure is a rare complication, and it has only been described in very preterm babies. We describe a case of respiratory failure needing ventilation following chlamydial infection in a neonate of 36 weeks' gestation.

### Case report

A 2 weeks old male neonate, born following vaginal breech delivery at 36 weeks' gestation with a birth weight of 2.13 kg, was admitted with history of apnoeal attacks and blue discoloration of the face and lips. In his short history he had a previous hospital admission when he was 3 days old for physiological jaundice which needed phototherapy. His parents had been in a steady relationship for the previous 6 years.

Clinical examination on the paediatric assessment unit revealed a generally healthy neonate with a blood pressure of 61/38 mm Hg (range 70/40), pulse of 142/minute, temperature of 35.8°C, body weight of 2.3 kg, respiratory rate (RR) of 80/minute, and oxygen saturation (O<sub>2</sub> sats) of 80% on air rising to 93% on oxygen. Examination of the respiratory, cardiovascular, central nervous systems, and the abdomen was unremarkable. The chest x ray showed wide spread nodular shadowing in both lung fields with normal heart size (fig 1) and, accordingly, a diagnosis of bronchiolitis was considered and a septic screen sent off.

Capillary blood gas (CBG) analysis showed pH 7.21 (range 7.31–7.43), Pco<sub>2</sub> 7.84 kPa (range 3.7–5.9), bicarbonate 19.3 mmol/l (range 16.8–21.6), with a base excess (BXS) of –5.8 mmol/l (range –5 to +5).

The full blood count, urea and electrolytes, liver function tests, blood culture, and lumbar puncture were all normal.

He was admitted and commenced on oxygen therapy by head box, intravenous gentamicin, and benzyl penicillin. He needed 70% oxygen to keep his O<sub>2</sub> sats in mid 90s. The following day, he became bradycardic with a pulse of 70/minute and needed 80% oxygen to keep his O<sub>2</sub> sats in the 80s. CBG continued to show a pH of 7.28, Pco<sub>2</sub> of 8.54, bicarbonate of 24.6, and BXS of +1. The RR was 90/minute. Continuous positive airway pressure (CPAP) was commenced which he did not tolerate. In view of his deteriorating condition, a decision to ventilate him was taken and he was commenced on intermittent positive pressure ventilation (IPPV). He continued to be critical with arterial blood gases remaining at pH 7.48, Po<sub>2</sub> 4.66, Pco<sub>2</sub> 5.22, bicarbonate 28.3, and BXS +5.1.

Fortunately, on the third day following admission, ocular and nasopharyngeal swabs taken earlier revealed *Chlamydia trachomatis* infection and accordingly he was started on intravenous erythromycin. Penicillin and gentamicin were stopped. Following this he started to show a steady improvement and he was extubated 7 days later and then discharged.

Both the parents were asymptomatic. However, following their attendance at the genitourinary medicine clinic, *Chlamydia trachomatis* infection was isolated from the genital tract of both.

### Discussion

If antenatal screening for *Chlamydia trachomatis* is routinely carried out, some neonatal infections could be prevented.<sup>1</sup> Prevalence of *C trachomatis* in the antenatal population varies (2%–24%) depending on the population studied.<sup>2</sup> However, the risk of vertical transmission from an infected mother is 60%–70%<sup>3</sup> with its attendant risks of conjunctivitis, pneumonitis, myocarditis, chronic respiratory problems, preterm labour, and respiratory distress syndrome (RDS).<sup>4,5</sup> Attenburrow describes five cases of severe neonatal pneumonia due to *C trachomatis* in preterm babies (25–32 weeks' gestation) two of whom were delivered by caesarean section; all of them needed ventilation and one of them died.<sup>6</sup> Prematurity increases the risks of respiratory failure as was evident in this cohort; however, our case illustrates that even near to term (36 weeks) babies are at risk and can go on to need ventilatory support.

This case demonstrates the need for vigilance and increasing awareness in cases of intractable respiratory conditions in neonates,



Figure 1 Chest x ray. Generalised nodular shadowing in both lung fields with normal heart size.

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which could be reduced by routine third trimester screening for *C trachomatis*.

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